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AUTHOR Thibodeaux, Terry Mark
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ABSTRACT

With the goal of generating research questions about teacher effectiveness, the first half of this paper deals with literature investigating teachers' nonverbal behavior in the classroom. This review lends support to the following ideas: (1) nonverbal cues affect relationship quality; (2) the more positive the teacher feedback to students, the more positive the students' perception of and attraction to that teacher; (3) the three independent variables of teacher-student solidarity, communicator style, and self disclosure are significantly related to perceived teacher effectiveness; (4) teachers should concentrate on emphasizing supportive behaviors and not concern themselves over defensive ones; (5) coping mechanisms can be a valuable teaching tool for managing classroom communication; and (6) a systematic program aimed at changing teacher behaviors can have a significant effect on students' evaluations of teachers and on student achievement. The second half of the paper focuses on a pilot study to conceptualize classroom climate and to assess students' and teachers' skills in decoding nonverbal facial cues. The paper reports that the results proved to be inconclusive, and discusses the use of students and teachers from communication and education classes as subjects, the Likert scale to measure perceptions, and factor analysis and regression techniques to analyze data. (EL)

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Nonverbal Sensitivity in the College Classroom: Toward Optimum Classroom Communication Climate

Terry Mark Thibodeaux
Department of Speech Communication
University of Southern Mississippi
Hattiesburg, MS 39401-5131

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Over the past decade a major concern has arisen in public education over the competency and preparedness of the teachers in America's public schools (Daly & Korineck, 1980). This concern has brought about attempts by parent and teacher groups (e.g. National Education Association) and various state legislatures, to insure that teachers are competent. For example, Georgia, Louisiana, and South Carolina have increased the requirements for teacher certification. Most recently President Reagan's special task force's report, A Nation at Risk, clearly outlined numerous problems confronting public education in the United States. Within the communication community, a parallel concern has arisen--the communicative competence of our teachers. Two examples illustrate this point. The National Teacher's Exam, which is used in many states as a certification measure, now has an oral communication section. Also, the state of Mississippi requires that all applicants to teacher education programs take and pass an exam which measures, among other things, communication skills.

While this renewed public concern with the quality of instruction is often characterized as relatively recent,

scholars have been interested in instructors' behaviors for at least twenty years (Amidon & Flanders, 1963; Veldman & Peck, 1963). One specific behavioral area in which Mehrabian conducted pioneering research, is the nonverbal communication between teacher and student. While hundreds of studies have been conducted since Birdwhistell (1955) introduced the science of kinesics, there has recently been an increasing amount of research on teachers' nonverbal communication (Woolfolk & Woolfolk, 1974 a & b; Heger, 1976; Norton, 1978; Leathers, 1979; Nussbaum & Scott, 1980; Andersen, Norton, & Nussbaum, 1981; Andriate, 1982; Rosenfeld, 1983; Nussbaum, 1983). Much research has investigated teachers' nonverbal communication and its impact on the learning process (Andersen, Norton, & Nussbaum, 1981; Andriate, 1982; Daly & Korinek, 1980; Kearney & McCroskey, 1980; Norton & Nussbaum, 1980; Nussbaum, 1981, 1983). The purpose of this is to review and critique selected literature investigating nonverbal communication in general and teachers' nonverbal communication in classroom, with the goal of generating research questions. These questions will help dictate the future directions for this research.

Birdwhistell's (1955) classic article introduces the science of kinesics, "the systematic study of how human beings communicate through body movement and gesture" (p. 10). He lays the foundation for later study in nonverbal communication by defining important terms and giving research examples in kinesics. Mehrabian (1967) presents early research into "Immediacy . . . defined as the degree of directness and intensity of interaction between two entities, such as two people" (p. 325). Two major implications are drawn: (1) Typically, nonverbal head cues affect relationship quality, while body cues affect relationship intensity, and (2) when confronted with contradictory verbal and nonverbal cues, people tend to give the nonverbal more importance. Ekman and Friesen (1969) use their earlier research as the basis for a five-category typology of nonverbal behavior. These include:

emblems--nonverbal acts having a direct verbal translation; illustrators--movements directly tied to speech; affect displays--movements of facial muscles

which affect emotions (p. 70); regulators--acts which maintain and regulate the back-and-forth nature of speaking and listening; and adaptors--learned adult behaviors which are habitual, not intended to transmit a message and usually without awareness. (p. 63-85)

In conclusion, Ekman and Friesen point out that the "complexities and variety of body movements and facial expressions" make it impractical to view nonverbal communication as a "simple unified phenomenon" (p. 93).

McMahon (1976) investigates impression formation and nonverbal communication as a function of attribution leading to impression formation. From this study, McMahon concludes that "(1) attitudinal judgements, in reference to 'message' as well as 'person', were largely based upon nonverbal cues, and (2) nonverbal cues serve primarily in the formation of interpersonal impressions and evaluations" (p. 294). She calls for more study into the process of attributional impression formation. Leathers (1979) investigates the types of feedback messages sent through verbal, as opposed to, nonverbal channels. He found four factors to comprise the range of nonverbal feedback cues "responsiveness, emotionalism, deliberativeness, and assurance" (p. 341). Two important conclusions are drawn: "(1) Future research should attempt to determine how information provided in

feedback responses is actually used, and (2) such research would necessarily entail a shift from the feedback response to the full feedback sequence as the unit of analysis" (p. 353). Nussbaum (1981) investigates instructor communication style as a possible cause of perceived teaching effectiveness. While this research revealed no causal relationship, results suggest the existence of indirect causal links. For instance, "the extent that an instructor is dramatic and relaxed within the classroom will positively affect the overall perception of that teacher's style of communication, and there is a positive relationship between a good communicator style and perceived teaching effectiveness" (p. 744). The author suggests that research intended to improve teaching should focus on the teacher's classroom communication.

Norton (1978) lays the foundation for the communicator style construct, defined as "the way one verbally or paraverbally interacts to signal how literal meaning should be taken, interpreted, filtered, or understood" (p. 99). Communicator style is operationalized in terms of ten sub-constructs--"dominant, dramatic, contentious, animated, impression leaving, relaxed, attentive, open, friendly, and communicator image" (p. 99). In constructing a self-report instrument, the Communicator Style Measure with 102 items (CSM-102), Norton presents

evidence of its reliability and validity. Leathers and Emigh (1980) construct a new Facial Meaning Sensitivity Test (FMST), test its accuracy and validity, and demonstrate its practical use. Besides the obvious use of the FMST to assess the decoding skills of an individual, Leathers and Emigh suggest the following as potential uses:

> (1) assess the comparative levels of decoding skills of selected intracultural and intercultural groups, (2) compare the abilities of individuals and groups to encode and decode facial meanings, [italics added] (3) determine whether an individual's ability to decode facial meanings is related to measured levels of skill in such traditional communicative competencies as reading and writing, and (4) develop an individual's sensitivity to the full range of facial meanings that are communicated. (p. 435-436)

Woolfolk and Woolfolk (1974a) investigate the "effects of teacher verbal and nonverbal behaviors on student perceptions and attitudes" (p. 297). By manipulating the degree of positiveness in both verbal and nonverbal feedback of the teacher, the authors claimed support for their general hypothesis that the more positive the teacher feedback to the students, the more positive the students perception of, and attraction to that teacher. Norton and Nussbaum (1980) "examine whether certain dramatic

behaviors are systematically associated with effective teachers" (p. 567). Two instruments were used to assess student perceptions of (1) dramatic behaviors exhibited by the teacher, and (2) teacher effectiveness. Overall the effective teacher is significantly more dramatic than the ineffective teacher" (p. 571). Nussbaum and Scott (1980) "investigate student/teacher solidarity as a factor mediating the relationship between an instructor's communicative behavior and student learning" (p. 553). Solidarity is defined as "the degree of psychological closeness people perceive between themselves" (p. 554). Another construct, communicator style, from Norton (1978), is assessed for its impact on student learning. Nussbaum and Scott conclude that "moderate to moderately high levels of solidarity" (p. 558) may be the optimum as regards student attitudes and achievement. Accordingly, "the teacher who attemps to become too psychologically close with students or who fails to nuture at least some perception of psychological closeness with students will have less than a desirable effect on <u>overall</u> classroom learning" (p. 558). Scott and Nussbaum (1981) investigate the influence of student perceptions of communicator style, self-disclosure, and solidarity of student perceptions of teacher effectiveness. All three independent variables are reported significantly related to perceived teacher effectiveness.

Generally, the authors conclude that since the communicative behaviors studied were found to influence instructor evaluations as well as classroom learning, these behaviors-style, self-disclosure, and solidarity, should be emphasized in teacher training programs. Andersen, Norton, and Nussbaum (1981) report on three investigations into the relationships between student perceptions of affective, behavioral, and cognitive learning. The constructs of teacher immediacy, solidarity and communicator style comprised the teacher communication behaviors. Overall the studies support the contention that "perceptions of teacher communication behaviors make a difference in student perceptions of effective teaching and in student affect toward the instructor and the course" (p. 390). Andriate (1982) investigates "teacher communication behaviors that affect student perceptions of the teacher-student relationship in the learning environment" (p. 792). Results agree with Nussbaum and Scott's (1980) finding of a curvilinear relationship between level of solidarity and student learning. An additional result of moderately high solidarity is found to be anxiety reduction. Specifically, "professional dress standards, moderate self-disclosure, spontaneous smiling, sweeping eye contact, positive feedback to student responses, and relaxed bodily postures may optimize student learning" (p. 807). Rosenfeld (1983)

investigates student perceptions of supportive and defensive communication climates in the classroom and their use of copying mechanisms in those having defensive climates. Two main conclusions emerge: (1) teachers should concentrate on emphasizing supportive behaviors, and not concern themselves over defensive ones, and (2) coping mechanisms can be a valuable teaching tool for managing classroom communication. Finally, Nussbaum (1983) reports evidence that a systematic program aimed at changing teacher behaviors can have a significant effect on students' evaluations of the teachers and also student achievement. A teacher training program utilizing videotapes of teachers' classroom performance, individual counseling by a supervisor, and student ratings, was shown to have a positive effect on both student perceptions of teacher effectiveness and student achievement scores. A curious result of this study was evidence of a "negative link between teaching experience and teacher effectiveness" (p. 681).

RATIONALE and RESEARCH QUESTIONS

The first purpose of the preceding review and discussion is to examine important studies in nonverbal communication and more specifically nonverbal communication within the classroom. From this discussion several

implications may be drawn, especially as to the type of research needed in nonverbal instructional communication. Several authors (Leathers, 1979; Nussbaum, 1981; Scott & Nussbaum, 1981; Andriate, 1982; Nussbaum, 1983) call for further study of classroom communication. Both Leathers (1979) and Norton and Nussbaum (1980) call for research focused, not simply on the teacher or the student as the unit of analysis, but the entire gestalt of classroom communication as the more appropriate focus. Leathers (1979) suggests study of the entire "feedback sequence," referring to the three-part sequence of: (1) sender sends message, (2) receiver sends feedback, and (3) original sender reacts to receiver's feedback. To facillitate this type of study Leathers and Emigh (1980) introduce the Facial Meaning Sensitivity Test, designed to measure skill in encoding and decoding facial expressions. Many researchers (McMahon, 1976; Leathers & Emigh, 1980; Nussbaum & Scott, 1980; Andriate, 1982; Rosenfeld, 1983) point out the preeminence of the face in influencing relationship quality within the classroom and without. In studying this classroom climate, Andriate (1982) and Rosenfeld (1983) research different aspects of classroom communication without a clear conceptualization of the overall construct or the sub-constructs which combine to form this communication climate. While this lack of clarity over a

central concept seems a fairly obvious research need, another problem with the existing research is not so obvious. As noted earlier, many authors concede that the face and the ability to interpret facial cues is important in impression formation (McMahon, 1976), this skill at decoding nonverbal facial cues has been taken for granted in communication climate research. This assumption is difficult to justify, since evidence suggests that individuals have a wide range of skill levels in this important area. Accordingly, the following research questions will guide this research:

RQ1: What communication factors contribute to the construct of classroom climate?

RQ2: What is the relationship between nonverbal facial sensitivity and classroom communication climate?

METHOD

What follows is a brief explanation of the methodology for the present study. Sections will include Overview, Subjects, Pilot Study, Precedures, Operational Definitions/Measures, and Data Analysis.

Overview

The present study is descriptive in nature. Initially a pilot study will be run aimed at adequately

conceptualizing Classroom Communication Climate (CCC). From the resulting data, a questionnaire designed to measure the quality of CCC in each of the subject classes will be constructed and administered to approximately 125 students and 20 teachers. Concurrently with the CCC measure, Leathers and Emigh's Facial Meaning Sensitivity Test (FMST) would also be administered, the latter to assess students' and teachers' skills in decoding nonverbal facial cues.

Subjects

All the subjects for this research would be university students and faculty. Students and teachers in approximately 10 class sections would be asked to volunteer for the study. Since these classes will come from at least two and as many as five different departments, the appropriate approval would be obtained from the department heads involved. The study would take place during regular class time, and provisions would be made to allow those who might choose not to participate to do so.

Pilot Study

The CCC measure used in the study above will be developed in a pilot study administered to different classes of subjects than will participate in the two part follow up. Again volunteers will be administered a questionnaire--this time aimed at clarifying the composite construct of classroom communication climate, and identifying its sub-

constructs and their interrelationships. This measure, a Likert scale plus at least one open-ended item, like the two instruments in the main study, would be completed by both students and teachers in order to gauge the perceptions of both for each class. Other instructors, from non-participating classes would also participate in the pilot study.

Procedures

At about week eight of the semester, approximately 100 students and 50 teachers will complete the pilot study aimed at clarifying CCC. These subjects would be from communication and education classes. They will be asked their opinions, attitudes, and perceptions as to the importance of a variety of concepts which research literature has indicated may be a part of, or related to CCC. One open-ended question would allow the respondents to list and describe factors in or characteristics of CCC not included in the structured items. Approximately one month later, using a different, but similar sample, the follow up would be administered. The CCC quality measure would be administered first, followed immediately by the FMST. For this portion of the study, only the students and their teachers of the classes involved would be asked to participate, the reason being that the quality of CCC in each class only requires the perceptions of the member-

students and their teacher be assessed.

Operational Definitions/Measures

For the pilot study, items will be divided into three sections--teacher attitudes and behaviors, student attitudes and behaviors, and overall perceptions. Five-point Likert scales (Strongly Disagree, Disagree, Undecided, Agree, Strongly Agree) might include "Most everyone feels free to ask questions or give comments in class," measuring openness; or "My teacher takes notice of peoples' feelings," measuring teacher attentiveness behavior; or "Students in my class generally seem to trust each other," (student trust perception). For the FMST, subjects would receive a skill rating from their performance scores, and for purposes of comparison, they would be assigned skill levels of Good, Average, and Poor. For the CCC quality measure, both Likert and semantic differential scales will be used. For instance, to assess teacher perceptions of student behavior: "My students respond to my nonverbal cues." The semantic differential items could be used to assess relative levels of various components such as confidence-fear, acceptance-rejection, order-chaos, etc., within the classroom.

Data Analysis

Data will be analyzed using factor analysis and regression techniques. In addition, appropriate follow-up analyses will be run as suggested by the data.

RESULTS

For the pilot data, factor analyses were run to check the validity of the questionnaire items. Preliminary factor analysis on all forty items suggested several changes for further analysis. The teacher effectiveness items were shown to be conceptually problematic and were excluded from further analysis here. In addition the teacher-focused items, the student-focused items, and the solidarity items were separated in order to factor analyze each set of items separately, with the assumption that they are conceptually distinct. Factor analysis in these three sets of items proved more fruitful than that done on all forty items together. The teacher items yielded six factors; the student items yielded five; and two of the four solidarity items loaded cleanly onto one factor. The other two solidarity items were split-loaded on two factors. For the student and teacher items, the resulting factors do not clearly reflect the concepts which these scales of items were used to measure in prior research. For example, the first three teacher attentiveness items loaded with one of the nonverbal sensitivity items, while the fourth attentiveness item was split-loaded on different factors. For the teacher items, three factors emerge from analysis: attentiveness, nonverbal sensitivity, and affective expressiveness. The other factors remain conceptually unclear. Openness and attentiveness are the only clearly defineable factors resulting from the student-focused items.

DISCUSSION

The seeming ambiguity among the items representing related communication concepts was not unexpected. From the literature review, there seemed to be substantial overlap among many of the communication variables investigated. This pilot study was an attempt, first, to measure the perceived importance of variables found to be important to the communication atmosphere in the classroom, and second, to validate the instrument used in the study. From the results, it is apparent that many revisions, some deletions, and possibly some substitution of items are needed before the follow-up questionnaire is ready to be administered. Since the follow-up will measure the quality of perceived CCC, instead of the perceived importance of the variables as in the pilot study, some of the conceptual problems may be better accounted for in the final data. In addition to the revised CCC measure, the inclusion of the Leathers and Emigh FMST instrument should yield potentially important information about how the various components of classroom communication climate might be related to proficiency at recognizing nonverbal facial cues, as suggested by earlier research. Results of this research also suggest that another look needs to be taken at specific teacher communication behaviors which may be predictive of students' perceptions of teaching effectiveness.

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